

# Data Format Descriptions

This document gives a brief description of the different file formats used for the data sets made available through the iNETS Measurement Data Archive.

## 1. The “Blue Box” format

All the data sets gathered using the “Blue Box” spectrum measurement platforms of iNETS use the following data formats. These data sets include the distributed spectrum measurements in London, as well as measurements carried out by RWTH Aachen University for the Two Days of European Spectrum measurement campaigns.

For each measurement, configuration information is stored in a Matlab file with suffix “.cfg”, and the corresponding measurement data is stored in one or more files with suffix “.spc”. From the measurement configuration key parameters are stored in data structure “measConfig”, including variables “mpoints” for number of frequency bins per sweep, “resBW” for the resolution bandwidth used, and variables “frqcent\*” storing information about the frequency spans swept. Finally, variable “OverloadCnt” stored indices of individual measurements for which overloads occurred at the spectrum analyzer. For the rest of the settings, such as the detectors used, antenna characteristics, and measurement locations, please refer to the measurement descriptions associated with the data sets.

The measurement data itself is stored in binary format, with  $(mpoints + 11)$  32-bit floating point values stored for each sweep. First the measurement results for each frequency bin are given in order, followed by 4 floating point numbers identifying the measurement location, and 6 floating point numbers giving the time stamp of the sweep in the format used by the Matlab clock()-function.

## 2. The format used for Two Days of European Spectrum measurements

For these data sets similar division between configuration and measurement data is followed as for the “Blue Box” format. The main differences are that the configuration data is in a simple ASCII format with descriptive variable names, and that  $(mpoints + 9)$  values are stored per sweep. The first value consists of the counter for the sweep, with the second value being reserved and can be ignored for now. The third value consists of a binary overload indicator, followed by the time stamp and the actual measurement data.